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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MARCANTONI, PAUL D

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 07/16/2002

24

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/481,988

Applicant(s)

BRUNISMA et al.

Examiner

Paul Marcantoni

Group Art Unit

1755

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

P r i d f r Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☒ Responsive to communication(s) filed on 7/8/02 Amendment & Response.
- ☒ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-27, 40, 41, 58-60, 69-71, 78-88, 90-95, 98, 109-115, 116-121, & 122-128 is/are pending in the application.
- ☐ Of the above claim(s) _____ is/are withdrawn from consideration.
- ☒ Claim(s) 1-27, 40, 41, 58-60, 69-71, 78-88, 90-95, 98, & 109-115 is/are allowed.
- ☒ Claim(s) 116-128 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Pri rity under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
- ☐ received in Application No. (Series Code/Serial Number) _____.
- ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

*Certified copies not received: _____.

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☐ Interview Summary, PTO-413
- ☐ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other _____

Office Action Summary

Applicant's arguments filed 7/8/02 have been fully considered but they are not persuasive.

New Matter Rejection:

Claims 116-127 remain rejected under the first paragraph of 35 USC 112 and 35 USC 132 as the specification as originally filed does not provide support for the invention as is now claimed.

Claim 116 contains new matter. The applicants omit the use of an acid (catalyst) in claim 116 which would appear to be required for their invention. It would appear that HCl is an acid catalyst and it is used in all examples so it would appear to be a critical component in their method. This omission of an acid catalyst in claim 116 would appear to be new matter absent a showing from the original disclosure that its usage is not mandatory.

Claim 117 also omits the use of an acid catalyst which would appear to be a critical component in their claimed method and thus its omission is new matter.

Claim 118 contains new matter. The term "surfactant" alone in claim 118 is also new matter since applicants have support for ammonium cationic surfactants or an *alkyl triethylammonium* chloride or bromide surfactants with different chain lengths.

Claim 118 also omits the use of an acid catalyst which would appear to be a critical component in their claimed method and thus its omission is new matter.

Claim 119 contains new matter. The term "a surfactant" is new matter. Applicants only have support in their original disclosure for ammonium cationic

Art Unit: 1755

surfactants or an *alkyl triethylammonium* chloride or bromide surfactants with different chain lengths.

Claim 119 also omits the use of an acid catalyst which would appear to be a critical component in their claimed method and thus its omission is new matter.

Claims 120 and 121 contain new matter because both claims would appear to omit the use of both a surfactant (specifically, ammonium cationic surfactants or an *alkyl triethylammonium* chloride or bromide surfactants with different chain lengths) and an acid catalyst which are both critical components of their inventive process. Omission of these components would appear to be new matter.

Claims 122-127 are new matter only so much as they refer to claims that have been determined to be new matter. However, the limitation of the aqueous solvent is supported by the original disclosure (see original patent Bruisma claim 1). The problem is that these claims depend upon claims that have new matter.

The applicants amendment of claim 128 required the following new matter rejection over claim 128:

Claim 128:

Claim 128 remains rejected under the first paragraph of 35 USC 112 and 35 USC 132 as the specification as originally filed does not provide support for the invention as is now claimed. Also, the invention is rejected under 35 USC 112 as the specification as originally filed is not commensurate in scope with the now claimed invention.

The term "catalyst" alone in claim 128 is new matter. As has been stated many times previously, applicants do not have support for any other catalyst other than an acid catalyst. The term silica precursor is acceptable and not new matter in claim 128.

The term "solvent" alone is not supported by the original disclosure and new matter because the original solvent must be either an aqueous solvent or a solvent containing an alcohol which can be ethanol (see, for example, original claims 1, 6, and 7 of Bruinsma patent).

These terms "catalyst" and "solvent" alone are also not commensurate in scope with the originally filed invention because the original disclosure requires an acid catalyst and an aqueous and/or alcohol containing (ie ethanol) solvent .

The applicants newly added limitation of between about 105 degrees C and 600 degrees C to decompose the surfactant and calcine the mesoporous silica film would appear to be new matter not supported by the original disclosure. First, the applicants do not have support for "between about" 105 degrees C nor do they have support for "about" 600 degrees C.

These new temperature range are also not commensurate in scope with the originally filed invention because the original disclosure requires a two step heating process of heating at 105 C for drying followed by calcining from 350C to 600C for a time sufficient to decompose the surfactant. See italicized suggestion to resolve this issue in claim 128 for temperature ranges in the response.

The following is the original claim 128 new matter rejection still not overcome by applicants.:

Claim 128 remains rejected under the first paragraph of 35 USC 112 and 35 USC 132 as the specification as originally filed does not provide support for the invention as is now claimed. Also, the invention is rejected under the first paragraph of 35 USC 112 as the specification as originally filed is not commensurate in scope with their enabling disclosure because for the same reasons in the new matter rejection.

Applicants' process of claim 128 is not commensurate in scope with their enabling disclosure because the original disclosure requires the presence of a templating step, an acid catalyst present, an ammonium surfactant or alkyl trimethylammonium chloride or bromide surfactants with different chain lengths, a silica precursor of tetraethoxysilane (TEOS), formation of a perform (of the silica precursor), having a superstoichiometric amount of aqueous solvent, providing acid catalyst in an amount to maintain a hydrolyzed precursor and avoid gelation or precipitation, and providing the surfactant and silica precursor in a mole ratio that is above a lower mole ratio that produces a non-porous silica phase and below an upper mole ratio that produces a lamellar phase.

It can also be argued that not only is it not commensurate in scope with the enabling disclosure but that the omission of these critical and specific limitations listed above would make their invention new matter not supported by the original disclosure. Applicants have a right to broaden their claims in a re-issue application within 2 years of the patent issue date but that does not mean they can broaden it so it can be new

Art Unit: 1755

matter. Broadened claims still must be supported by the original disclosure and claim 128 is an example of one of the claims still rejected that is illustrative of this new matter.

It is noted that there is support for a calcined silica film on column 7, line 5 and column 9, line 11. However, claim 128 is new matter claim because the original disclosure requires the presence of an *acid catalyst* which is missing or omitted from claim 128. This must be in claim 128 because it is required by the original disclosure.

Also, claim 128 is new matter because it omits any solvent whatsoever not to mention it does not state an *aqueous solvent* which is required by the applicants' invention. The solvent can include dilution with an alcohol, particularly ethanol (see Bruinsma patent original claims 6 and 7). Further, it would appear critical to actually dilute with an alcohol as is required by claim 25 of the original Bruinsma patent.

Claim 128 is further new matter because it does not support any surfactant known in the art. Applicants are limited to the teachings of their original disclosure which is a surfactant having an ammonium cation. More so, it also supports using alkyl trimethylammonium chloride or bromide surfactants with different chain lengths (see col.7, lines 40-50 of original Bruinsma patent).

Claim 128 is new matter because applicants do not have support for any precursor but are limited to a silica precursor of tetraethoxysilane (TEOS). TEOS is present in all working examples and would appear to be required in any claim for forming a film. No film is formed using any other precursor other than TEOS. (See also original claim 25).

The applicants' amendment necessitated this new ground of rejection as well under 35 USC 112 second paragraph.

35 USC 112 Second Paragraph:

Claim 128 is rejected under 35 USC 112, second paragraph, as failing to set forth the subject matter the applicants regard as their invention.

The applicants do not particularly point out and distinctly claim an "acid" catalyst in claim 128 which is required by their original disclosure.

The term *solvent* would appear indefinite since applicants do not particularly point out and distinctly claim the specific solvents (ie aqueous and or alcohol solvent such as ethanol.) supported by the original disclosure.

The applicants newly added range "of between about 105 degrees C and about 600 degrees C" sufficient to decompose the surfactant "and calcine the mesoporous silica film" would appear to be vague and indefinite. It is unclear at what temperature the material is heated before calcining versus the temperature range of calcining as well as what is being achieved in each step to obtain the final mesoporous silica film product. (see col.11, lines 25-26 of Bruinsma patent).

Claim 128's new temperature limitation step remains indefinite because applicants do not distinguish which temperature range or specific temperature is for heating and which set temperature or temperature range is for calcining. Claim 128 is further vague since it is unclear if it is a two step heating process or only a one step heating process. It would appear that the original disclosure indicates a two-step heating process. Heating and calcining are performed. More so, is it possible to calcine

Art Unit: 1755

at 105 degrees C? From the new claim limitation, it could be construed that there is no difference between heating and calcining when clearly that is not the case.

Claim 128 would appear indefinite because applicants do not provide a temperature one of ordinary skill in the art would understand to be calcinations or heating (105 C vs. 350C to 600C).

Response:

The applicants argue that the omission of acid catalysts and the specific surfactants as originally disclosed in the Bruinsma patent for claims 116-121 is not new matter because catalysts and surfactants are known in the prior art and because the Jepson formatted claims recite as inventive steps only that which is new, not that which is admittedly old. In rebuttal, an acid (catalyst) and specific surfactants that are supported by the original disclosure is used in every example and also are used in all independent claims as a critical component in the Bruinsma patent. There is no statement in the original disclosure that the addition of acid catalysts and the specific surfactants of the specification are optional. Further, nowhere is it stated that these acid catalysts and surfactants "may be" added. The specification requires the presence of both these components to achieve their desired final product.

The applicants argue that catalysts and surfactants are known in the art and state that this as the basis for why the omission of these additives is optional. The examiner agrees that these components are known additives to one of ordinary skill in the art. However, if one of ordinary skill looks to the applicants' original disclosure, they will see that there is no support for this statement since applicants do not state that any

Art Unit: 1755

of these components are optional or may be omitted nor do they provide any example where they omit either a surfactant or an acid catalyst. The examiner maintains his position because the applicants position that these components are optional does not appear to agree with what is actually stated in their original disclosure.

In response to the Jepson style format, which teaches what is old in the art, the use of catalysts and surfactants may be known additives in the art yet the applicants' original disclosure simply does not support the omission or making optional either one of these components. Again, there is not one example wherein either of these components are omitted nor is there any statement in the original disclosure stating adding either a surfactant or acid catalyst is optional.

The applicants argue that the cited case law provided compellingly illustrates that a precise definition of materials is not needed when the essence of the invention does not reside in the use of such materials in the claimed process. The examiner disagrees. It almost seems that what applicants are stating is that they are not bound by their original disclosure but can broaden their claims to an invention which is beyond the scope of their original invention. The applicants argue that the "essence of their invention" does not reside in the use of such materials for their claimed process. In rebuttal, then why are these materials present in every example? Why are they listed in the description and summary of the invention as critical components? Why are they present in all independent claims within the Bruinsma patent? Again, if one of ordinary skill in the art is to look to the specification for guidance as to the essence of the

Art Unit: 1755

invention, there is absolutely no support for the omission of a catalyst and the surfactant from the originally disclosed invention.

The applicants limited themselves to a precise definition of their invention through their original disclosure that an acid catalyst and specific surfactants must be utilized in their invention. There is no case law that supports broadening the invention beyond the original scope. The applicants' essence of their invention is limited to how they actually define what their invention is in their original disclosure. This is stated in the statutes under 35 USC 112 (1st paragraph) and 35 USC 132 which makes it clear that new matter additions are improper and violate these statutes. The original disclosure requires the presence of an acid catalyst in their process as well as the specific surfactants supported by the original disclosure.

The applicants argue that anionic surfactants and other neutral surfactants were well known at the time of their invention and cited in the background of the Brinker and Tanev patents. Yet, are applicants suggesting that it is proper to look to the disclosure of other patents for the original scope of their own invention? It is improper to read the limitations of other patents' disclosures into the present Bruinsma patent because unless these references were *incorporated by reference* into the original disclosure (which they were not), the applicants know that it is improper to read any of the disclosures of these invention for their own claimed invention. Not only is it improper to do this as applicants state with reference to these references it is *new matter* because it not defined by their *own* invention.

The applicants state that the examiner has not explained how these cases are different than the present case. The examiner has explained it because the applicants cannot go beyond the boundaries of 35 USC 112 first paragraph and 35 USC 132 regarding new matter. They are limited to their original disclosure which is the essence of their invention and the applicants are limited to a precise definition when they themselves limit themselves to specific surfactants and catalysts and do not clearly state in their original disclosure that other surfactants or catalysts or any surfactant or catalyst may be used for their invention. Since there is support only for the specific surfactants and catalysts of the original disclosure and there is no support for their being optionally added, the applicants' claimed invention must be limited to what is within the teachings of their original disclosure.

In claim 128, it is rejected for the reasons stated above. Applicants should have specifically claimed an acid catalyst because their specification is limited to only this particular kind of catalyst. The use of silica precursor is acceptable but the use of *solvent* is also new matter like catalyst alone since applicants only have support for aqueous solvent or aqueous solvent containing alcohol (e.g. ethanol).

Also, the applicants' presentation of their film heating steps is vague, indefinite, and also new matter for the reasons stated above. Applicants should have broken claim 128 into two specific heating steps which was requested in the first office action. The claim should have been:

Heating the film on the substrate at a temperature of 105 degrees C for a time period effective to dry the substrate (note:if this is what is necessary in the first lower heating step); and

Calcining the film in the temperature range of 350 degrees C to 600 degrees C for a time sufficient to decompose the surfactant.

These temperature ranges are supported by the original disclosure especially when looking at the examples as well as the teaching of column 11, lines 25-26 of the Bruinsma patent.

Finally, the applicants argue that it is improper to restrict their invention to every detailed limitation in the detailed description of the invention as though only a single preferred embodiment or only a single best mode of practicing the invention is patentable, contrary to case law, and contrary to the broader suggestions found within the abstract, background, and summary of the invention.

In rebuttal, it is the applicants' responsibility that their original disclosure of their patented invention (for re-issue) be complete and fully disclose what they regard as their invention. Re-issue applications allow broadening within the two year time limit if there is support from the original disclosure. Re-issue does not mean applicants have license to claim new matter limitations to which there is no support from the original disclosure. That was not the purpose of re-issue applications and new matter is improper whether in a regular US application or a US re-issue application.

The applicants have not been limited by the examiner but have been limited by their own original disclosure. Further, the position taken by the examiner is not contrary

to case law. The examiner is following the statutes of 35 USC 112 first paragraph and 35 USC 132 and presently these statutes are being violated by said claims above.

For the foregoing reasons, the applicants' position is not convincing and finality of this office action is now proper.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Marcantoni whose telephone number is (703)-308-1196. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell can be reached on (703) 308-3823. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-872-9310 for regular communications and (703)-872-9311 for After Final communications.

Art Unit: 1755

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

A handwritten signature in black ink, appearing to read 'Paul Marcantoni', with a stylized, cursive script.

Paul Marcantoni
Primary Examiner
Art Unit 1755